

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

**Project Name:** Infrastructure & Basin Planning

**Project Cost:** \$250,000 per year (ongoing)

**Project Location:** N/A

**Project Description:** This line item in the SWCIP will fund hydraulic modeling, basin planning, infrastructure and rehabilitation studies, regional facility analyses and conceptual design in support of identification and construction of capital facilities.

**Project Schedule:** Ongoing

**Project Justification:** Funding the analyses, planning, coordination, and conceptual design elements of regional stormwater facilities ensures more cost-effective facilities will be designed, located and constructed. These activities also support watershed management principles endorsed by the State Department of Ecology.

**Description of M&O Cost:** None

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,500,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$1,500,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	264R - 85th Street Water Quality Facility
<b>Project Cost:</b>	\$6,950,000
<b>Project Location:</b>	The downtown basin area that drains to the 85th Street trunk line, discharging to the Sammamish River. Proposed facility location is near the intersection of NE 85th Street and 158th Avenue NE.
<b>Project Description:</b>	Construct a StormFilter vault in the parking lot of the City Hall. A pump station is required to construct this facility.
<b>Project Schedule:</b>	2010-2011
<b>Project Justification:</b>	The 85th Street trunk drain outfall discharges undetained and minimally treated stormwater flows into the Sammamish River from a mixed-use basin approximately 210 acres in size. Pollutant load modeling indicates large amounts of suspended solids and volatile solids are discharged from this outfall each year. This drainage area represents a large sub-basin within Redmond with discharge that impairs water quality of the Sammamish River.
<b>Description of M&amp;O Cost:</b>	Annual removal of sediment and replacement of filter cartridges.

	2007	2008	2009	2010	2011	2012	Total 2007- 2012
Total Project Cost	\$6,950,000						\$6,950,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP	\$6,950,000						\$6,950,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00				0.00	0.00	0.00
Salary/Benefit Costs	\$0				\$0	\$0	\$0
Operating Costs	0	120,000	120,000	120,000	120,000	120,000	600,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$120,000</b>	<b>\$120,000</b>	<b>\$120,000</b>	<b>\$120,000</b>	<b>\$120,000</b>	<b>\$600,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	365R - Leary Way Stormwater Treatment Wetland
<b>Project Cost:</b>	\$495,000
<b>Project Location:</b>	South of Leary Way & 159 <sup>th</sup> Place intersection
<b>Project Description:</b>	Expand this facility into a stormwater treatment wetland that is sized to provide treatment for the entire small watershed.
<b>Project Schedule:</b>	2007
<b>Project Justification:</b>	This project site is an existing facility that has failed. It is located at the end of the stormwater system for this small watershed, so is ideally located for a stormwater quality facility. Once completed, the facility will provide water quality for the watershed, thereby eliminating the need for private water quality facilities on redeveloping properties in the area, and also retrofitting City roads.
<b>Description of M&amp;O Cost:</b>	Annual weed control for 5 years beginning in 2009. Sediment removal every 5 years beginning in 2013. Crew of 4, 8 hours per year.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost	\$195,000	\$300,000					\$495,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP	\$195,000	\$300,000					\$495,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00		0.00	0.00	0.00	0.00	0.00
Salary/Benefit Costs	\$0		\$0	\$0	\$0	\$0	\$0
Operating Costs	0		1,500	1,500	1,500	1,500	6,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,500</b>	<b>\$1,500</b>	<b>\$1,500</b>	<b>\$1,500</b>	<b>\$6,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	362R - Redmond Way Trunk Water Quality Facility
<b>Project Cost:</b>	\$4,600,000
<b>Project Location:</b>	Property north of Redmond Way and Trestle, adjacent to East side of the river.
<b>Project Description:</b>	Construct a large wetvault and StormFilter vault in the parking lot of the existing building. The project should also evaluate the cost effectiveness of removing the building and instead constructing a stormwater treatment wetland across the entire property.
<b>Project Schedule:</b>	2007
<b>Project Justification:</b>	This project site is located at the end of the proposed Redmond Way Storm Trunk, so is ideally located for a stormwater quality facility. Once completed, the facility will provide water quality for most of downtown Redmond, thereby eliminating the need for private water quality facilities on redeveloping properties in the area.
<b>Description of M&amp;O Cost:</b>	Annual removal of sediment and replacement of 768 filter cartridges.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost	\$150,000	\$450,000	\$4,000,000				\$4,600,000
<b>Total Project Revenues:</b>							
Stormwater CIP	\$150,000	\$450,000	\$4,000,000				\$4,600,000
<b>Ongoing M&amp;O Costs:</b>							
<i>Staffing:</i>							
Number of FTEs	0.00			0.00	0.00	0.00	0.00
Salary/Benefit Costs	\$0			\$0	\$0	\$0	\$0
Operating Costs	0			120,000	120,000	120,000	360,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$120,000</b>	<b>\$120,000</b>	<b>\$120,000</b>	<b>\$360,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

**Project Name:** 364R - Luke McRedmond Media Filter Vault

**Project Cost:** \$1,575,000

**Project Location:** Luke McRedmond Park parking lot

**Project Description:** Provide regional water quality facility for this small watershed. Connect to existing outfall pipe.

**Project Schedule:** 2007

**Project Justification:** This project site is located at the end of the stormwater system for this small watershed, so is ideally located for a stormwater quality facility. Once completed, the facility will provide water quality for the watershed, thereby eliminating the need for private water quality facilities on redeveloping properties in the area, and also retrofitting City roads.

**Description of M&O Cost:** Annual removal of sediment and replacement of 108 filter cartridges.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost	\$75,000	\$100,000	\$1,400,000				\$1,575,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP	\$75,000	\$100,000	\$1,400,000				\$1,575,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00			0.00	0.00	0.00	0.00
Salary/Benefit Costs	\$0			\$0	\$0	\$0	\$0
Operating Costs	0			18,000	18,000	18,000	54,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$18,000</b>	<b>\$18,000</b>	<b>\$18,000</b>	<b>\$54,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

**Project Name:** 363R - Redmond Way Storm Trunk

**Project Cost:** \$22,450,000

**Project Location:** Redmond Way between Bear Creek and Sammamish River

**Project Description:** Construct direct discharge stormwater trunk to allow exemption from flow control for all of downtown Redmond.

**Project Schedule:** 2 Phases with completion in 2009 and 2010.

**Project Justification:** There is almost no detention in downtown Redmond. As the area redevelops, properties will be required to construct detention facilities to prevent flooding. This project will help propel redevelopment in the downtown area by providing needed stormwater conveyance infrastructure.

**Description of M&O Cost:** No appreciable increase in maintenance cost over existing system.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost	\$450,000	\$1,000,000	\$13,000,000	\$8,000,000			\$22,450,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP	\$450,000	\$1,000,000	\$13,000,000	\$8,000,000			\$22,450,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	380R - Safeway Bear Creek Water Quality Facility Phase 2
<b>Project Cost:</b>	\$711,500
<b>Project Location:</b>	East downtown basin area that drains to the Bear Creek Outfall, north of the Redmond Way Bridge over Bear Creek.
<b>Project Description:</b>	Once the Redmond Way Storm trunk and water quality facility are built, most of this water will be diverted there. This project is to construct a small diversion and treatment system to provide clean stormwater to Bear Creek (1 cfs) without the need for detention.
<b>Project Schedule:</b>	2008
<b>Project Justification:</b>	The Redmond Way west trunk drain outfall discharges undetained, minimally treated stormwater flows into Bear Creek from a mixed use basin approximately 82 acres in size. Pollution load modeling indicates a large amount of suspended solids and volatile solids are discharged from this outfall each year. This drainage area represents a large sub-basin within Redmond, and the discharge impairs water quality of a sensitive creek.
<b>Description of M&amp;O Cost:</b>	Annual removal of sediment and replacement of approximately 5 filter cartridges.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost		\$75,000	\$186,500	\$450,000			\$711,500
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP		\$75,000	\$186,500	\$450,000			\$711,500
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00				0.00	0.00	0.00
Salary/Benefit Costs	\$0				\$0	\$0	\$0
Operating Costs	0				3,500	3,500	7,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,500</b>	<b>\$3,500</b>	<b>\$7,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	357S - HEP III Stormwater Treatment Wetland
<b>Project Cost:</b>	\$210,000
<b>Project Location:</b>	WLSP Between Redmond Way & Trestle
<b>Project Description:</b>	The intent of this project is to fill in the existing ponds with fine soils and line to prevent leakage. Next, regrade and expand the facility as much as possible to maximize available property. Finally, plant wetland plants around the shallow pool to enhance stormwater treatment.
<b>Project Schedule:</b>	2007-2008
<b>Project Justification:</b>	The project site is a failing stormwater facility. It was originally a bioswale constructed as part of the Peters Creek bypass project in 1996. Innovative at the time, this large bioswale eventually short-circuited, eroding until it failed. In 2005, the facility was reconstructed as part of the HEP III project nearby. It was turned into a 3-celled wetpond. It was not lined. Due to substantial root intrusion, the pond quickly began to leak until it piped out to the river, causing instability of the bank adjacent to a pedestrian pathway. The pond was isolated from the Peters Creek Bypass to reduce water within it and thereby reduce the leakage. The facility needs to be modified so that it provides water quality treatment without destabilizing the adjacent trail.
<b>Description of M&amp;O Cost:</b>	Annual weed control. Sediment removal every 5 years. Crew of 4, 8 hours per year.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost	\$55,000	\$155,000					\$210,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP	\$55,000	\$155,000					\$210,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Salary/Benefit Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Operating Costs	0	1,500	1,500	1,500	1,500	1,500	7,500
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$1,500</b>	<b>\$1,500</b>	<b>\$1,500</b>	<b>\$1,500</b>	<b>\$1,500</b>	<b>\$7,500</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	Bear Creek Improvements at Friendly Village
<b>Project Cost:</b>	\$2,106,000
<b>Project Location:</b>	East of Avondale Road and south of NE 95th - on Friendly Village mobile home park property.
<b>Project Description:</b>	Excavate high flow terraces and install in-stream structures to enhance habitat and redirect stream flow to reduce erosion. Amend the soil, using erosion control and biostabilization methods to stabilize exposed soil and/or mulch. Replant the riparian buffers with native vegetation consisting primarily of attractive native trees and shrubs, considering both habitat and aesthetics over 2,000 lineal feet. Install rail fencing as needed to delineate and protect the buffer.
<b>Project Schedule:</b>	2007-2009
<b>Project Justification:</b>	Bear Creek, a Class 1 stream with significant Chinook salmon runs, has little riparian buffer with lawn up to the stream banks along portions of the property, for a total frontage of approximately 2,000 lineal feet. Buildings are located near the creek and flooding can be a problem. The project could enhance habitat for listed Chinook salmon and reduce flooding. The project could add aesthetic value, significantly improve riparian buffer habitat and provide an educational opportunity for the residents.
<b>Description of M&amp;O Cost:</b>	Monitoring and invasive plant control \$15,000/year for 5 years.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost	\$130,000	\$176,000	\$1,800,000				\$2,106,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP	\$130,000	\$176,000	\$1,800,000				\$2,106,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00			0.00	0.00	0.00	0.00
Salary/Benefit Costs	\$0			\$0	\$0	\$0	\$0
Operating Costs	0			15,000	15,000	15,000	45,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$15,000</b>	<b>\$15,000</b>	<b>\$15,000</b>	<b>\$45,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	349S - Overlake Stormwater Pond
<b>Project Cost:</b>	\$500,000
<b>Project Location:</b>	152nd Ave NE, South side of SR 520
<b>Project Description:</b>	This project will construct the first of a series of stormwater detention / water quality ponds within the watershed. This pond will be 20-acre feet in detention volume, spread over a 2-acre area. It will include a 1-acre permanent pool that is about 7 feet deep, at the bottom of a 16-foot deep slope. There are opportunities for trails and plantings to provide parklike areas and educational opportunities.
<b>Project Schedule:</b>	2008-2009
<b>Project Justification:</b>	The 331 Acre, Redmond portion of the Overlake watershed drains to Sears Creek in Bellevue. There have been flooding problems downstream. To fully retrofit the Redmond portion of the watershed to today's standards, we need 141 acre-feet of storage. We now have 5. By constructing this facility, the City's public roads will be treated, and so will up to 20 acres of private property -- thereby encouraging redevelopment of the private property. Microsoft is building some City vaults in the R-O-W in 2006. If this project goes forward, then those vaults could be eliminated, and the costs of those vaults will contribute to the cost of building this regional pond, thereby reducing City maintenance costs and providing a more effective system.
<b>Description of M&amp;O Cost:</b>	Annual weed control. Sediment removal every 10 years. Crew of 4, 16 hours per year.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost		\$175,000	\$325,000				\$500,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP		\$175,000	\$325,000				\$500,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00			0.00	0.00	0.00	0.00
Salary/Benefit Costs	\$0			\$0	\$0	\$0	\$0
Operating Costs	0			3,000	3,000	4,000	10,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,000</b>	<b>\$3,000</b>	<b>\$4,000</b>	<b>\$10,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	Valley Estates Open Space (Access for ACOE Project)
<b>Project Cost:</b>	\$385,000
<b>Project Location:</b>	Approximately 148th NE and NE 108th (the valley floor open space at the Valley Estates plat)
<b>Project Description:</b>	Investigate property ownership issues, including covenants and restrictions on use of the open spaces in question. Negotiate and secure ownership or easements to the property.
<b>Project Schedule:</b>	2008-2009
<b>Project Justification:</b>	<p>The City has submitted an application to the Army Corps of Engineers (ACOE) proposing that a historic oxbow be recreated as off-channel open water area on the valley floor. If approved, the ACOE would secure permits, engineer the project and construct the enhancements. The City would be required to provide partial funding and secure ownership or easements to the property (real estate costs may be counted as match). The area in question is part of the “Valley Estates” plat, and falls under several different open space designations. It is important to settle access issues in advance to take advantage of the ACOE project funding and permit assistance.</p> <p>The future construction phase of the project is primarily a habitat enhancement project, and would also increase flood storage capacity. Approximately 1/3 mile of off-channel area adjacent to the Sammamish River could be created in partnership the ACOE.</p>
<b>Description of M&amp;O Cost:</b>	None for the property component of this phased project

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost		\$55,000	\$330,000				\$385,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP		\$55,000	\$330,000				\$385,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	4800 West Lake Sammamish Parkway Channel Creation
<b>Project Cost:</b>	\$462,000
<b>Project Location:</b>	From the 4800 block of West Lake Sammamish Parkway east to Country Creek.
<b>Project Description:</b>	Obtain easements from King County and daylight approximately 1,000 lineal feet of channel to increase habitat values and function. Move the stream to the south, to the approximate location of existing ditches leading into Country Creek or enhance the existing wetland to allow discharge through it. Control invasive weeds and establish a native plant buffer a minimum of 25' in width on both banks of the new channel.
<b>Project Schedule:</b>	2008-2010
<b>Project Justification:</b>	The existing piped system crossing Westlake was replaced in 2004. The extension runs approximately 1,000 feet to the east and may require regular maintenance due to root invasion. The existing pipe runs over County-owned property on a former sewage treatment site, with potential soil contamination issues. The next parcel to the south is also owned by the County, and has former agricultural drainage ditches that may offer opportunities to accommodate a new open channel. The potential channel area is dominated by reed canary grass, with some blackberry and some dense stands of native salmonberry. Groundwater may also be an issue if broken or separated pipes are transporting contaminants.
<b>Description of M&amp;O Cost:</b>	\$49,730 (For a total of \$67,095 over a period of 3 years.)

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost		\$44,000	\$137,500	\$280,500			\$462,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP		\$44,000	\$137,500	\$280,500			\$462,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00				0.00	0.00	0.00
Salary/Benefit Costs	\$0				\$0	\$0	\$0
Operating Costs	0				22,365	22,365	44,730
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$22,365</b>	<b>\$22,365</b>	<b>\$44,730</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	Willows Creek through PSE Open Space
<b>Project Cost:</b>	\$885,500
<b>Project Location:</b>	Extensions of NE 91st St. and 142nd Ave NE. Within the large open space under the Puget Sound Energy (PSE) transmission lines.
<b>Project Description:</b>	Create a deeper channel with rock and wood structures intended to define the channel and create pools. Perhaps construct multiple channels or associated wetland to accommodate sediment loads and braiding. Plant low to moderate height vegetation (shrubs or shrubby trees) to shade out reed canary grass without substantially increasing maintenance under the power lines. The deeper channel should alleviate flooding potential for properties to the east.
<b>Project Schedule:</b>	2011
<b>Project Justification:</b>	This Class II stream flows into the open space under the power lines, dominated by reed canary grass. There is no defined channel for approximately 1100 lineal feet. Low gradient and thick mats of grass have caused multiple braided overland flow through the grass resulting in 1) potential fish passable barriers to the fish habitat in upstream reaches and 2) flooding of commercial properties to the east as the stream changes course.
<b>Description of M&amp;O Cost:</b>	\$4,000(For a total of \$20,000 over a period of 5 years.)

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost			\$65,500	\$115,000	\$705,000		\$885,500
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP			\$65,500	\$115,000	\$705,000		\$885,500
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0					4,000	4,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,000</b>	<b>\$4,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	Lower Country Creek Improvements
<b>Project Cost:</b>	\$369,500
<b>Project Location:</b>	Between West Lake Sammamish Parkway and Sammamish River
<b>Project Description:</b>	Regrade banks and install structures in streambed to improve fish habitat. Remove invasive reed canary grass and revegetate banks with native vegetation. Re-establish flood plain (would require acquisition or creative easement). Remove an existing culvert +/- 1000' upstream from confluence with the river. Meander channel through flat lands. Restore wetland functions.
<b>Project Schedule:</b>	2011
<b>Project Justification:</b>	Instability of the channel bed and banks has led to erosion, incision, and aggradation, resulting in problems such as sunken or hanging culverts, and areas of heavy siltation. The riparian zone between W. Lake Sammamish Parkway and the Sammamish River is dominated by invasives, primarily reed canary grass, blackberry and cattail, which out-compete native species, provide little shade cover to the stream. There is minimal pool or instream habitat. No fish are known to use this section of stream however it connects to the Sammamish River and there seems to be no barriers that prohibit fish use.
<b>Description of M&amp;O Cost:</b>	\$8,000 (For a total of \$48,000 over 6 years.)

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost				\$110,000	\$259,500		\$369,500
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP				\$110,000	\$259,500		\$369,500
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00					0.00	0.00
Salary/Benefit Costs	\$0					\$0	\$0
Operating Costs	0					8,000	8,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$8,000</b>	<b>\$8,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

**Project Name:** Upper "Brae Burn" Creek Improvements

**Project Cost:** \$402,000

**Project Location:** Section between NE 24th St and NE 21st St.

**Project Description:** Construct an overflow structure at inlet to culvert. Stabilize banks and enhance buffer through streambank planting. Add roughness features. Install streamside fencing.

**Project Schedule:** 2012

**Project Justification:** During high flows the inlet to the culvert under NE 24th St clogs with debris and this Class 3 stream nearly floods the yard of one private residence. Stream bank erosion is occurring along channel contributing sediment to ponds in lower Brae Burn Creek. No fish are believed to use this section of stream. Flooding of the residential property constitutes a public safety concern because of the depth and velocity as it enters the storm system.

**Description of M&O Cost:** \$27,500 over a period of five years beginning in 2013.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost				\$44,000	\$138,000	\$220,000	\$402,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP				\$44,000	\$138,000	\$220,000	\$402,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	Sammamish River Habitat Improvements Valley Estates to 116th
<b>Project Cost:</b>	\$450,000 (Total project \$2,500,000 -- City share.)
<b>Project Location:</b>	The Sammamish River, from the south end of Valley Estates (~10700 block) north to NE 116th Street.
<b>Project Description:</b>	Regrade and revegetate both banks and reconstruct the channel section along this reach of the Sammamish River, including 1800 lineal feet of new channel meander, and 3400 lineal feet of existing channel restoration on both banks. Install woody debris and gravel substrate to improve habitat and provide hydraulic diversity.
<b>Project Schedule:</b>	2011
<b>Project Justification:</b>	<p>The Sammamish River, a Class 1 shoreline of the state, supports Chinook, Coho, and Sockeye salmon which use the River for spawning, rearing and migration. The River was lowered and straightened in the early 1900's, and dredged by the US Army Corp of Engineers (ACOE) in the early 1960's. While this provided a measure of flood protection the dredging has damaged salmon habitat and interrupted this crucial migration route.</p> <p>High water temperatures and lack of low bank habitat in the river are the primary limiting factors for fish survival. Channel and bank improvements could improve habitat for fish and wildlife and substantially improve aesthetics along the popular trail corridor. Proximity to the Sammamish River Trail provides a range of interpretive opportunities and could foster grant funding.</p>
<b>Description of M&amp;O Cost:</b>	Monitoring and invasive plant control \$35,000 / year

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost					\$150,000	\$300,000	\$450,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP					\$150,000	\$300,000	\$450,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00					0.00	0.00
Salary/Benefit Costs	\$0					\$0	\$0
Operating Costs	0					35,000	35,000
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$35,000</b>	<b>\$35,000</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	Evans Creek Relocation
<b>Project Cost:</b>	\$55,000 (Total project cost \$1,962,000)
<b>Project Location:</b>	From Union Hill north and west to the mouth at Bear Creek.
<b>Project Description:</b>	Relocate stream to the north and east, away from industrial properties to create adequate buffers. Install in-stream structures and plant native vegetation within new buffers.
<b>Project Schedule:</b>	2012
<b>Project Justification:</b>	This Class I stream with good populations of native Coho salmon has been heavily impacted by industrial development. Buffers are narrow, with limited trees and almost no conifers. This exposes the stream channel to more sunlight and does not provide adequate large conifers for large woody debris recruitment. Poor management practices adjacent to the stream are impacting water quality. The County and Army Corps of Engineers have proposed extensive channel and buffer enhancements upstream. This large basin appears capable of supporting good salmon runs and quality riparian habitat for other wildlife if the buffers can be reestablished and protected. The stream and buffer within the City limits are largely unprotected at this time.
<b>Description of M&amp;O Cost:</b>	Monitoring and invasive plant control \$15,000/year beginning in 2016.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost						\$55,000	\$55,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP						\$55,000	\$55,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

**Project Name:** Transportation Overlay Contribution

**Project Cost:** \$350,000 per year (ongoing)

**Project Location:** N/A

**Project Description:** This line item in the SWCIP will finance corrections to stormwater system deficiencies identified during the planning and construction activities associated with the Transportation Department's Street Overlay Program.

**Project Schedule:** Ongoing annually

**Project Justification:** Planning, budgeting, coordinating, and constructing miscellaneous stormwater improvements during transportation overlay activities will ensure that the City cost-effectively and efficiently constructs all improvements needed within the streets; minimizing inconveniences to drivers and pedestrians and eliminating the need to dig up streets later to construct needed stormwater improvements.

**Description of M&O Cost:** None - maintenance costs and activities are already accommodated via citywide stormwater maintenance program.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$2,100,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$2,100,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	232S - Oakridge Bioinfiltration Swale
<b>Project Cost:</b>	\$330,000 (Total project cost \$830,000)
<b>Project Location:</b>	Northwest corner of Marymoor Park, South of 18000 NE 65 <sup>th</sup> Street
<b>Project Description:</b>	This project will refurbish an existing drainage infiltration swale by removing soil to deepen the swale and extending the swale far enough downstream to prevent flooding. The swale will also be amended with compost and an easement will be obtained from King County Parks for maintenance of this stormwater facility. Some portions of the project site may include wetland areas, so wetland mitigation would be required. Permitting will be through King County DDES, since this property lies outside the City limits, within Marymoor Park.
<b>Project Schedule:</b>	2012
<b>Project Justification:</b>	The Oakridge parking lot near Marymoor Park floods frequently (multiple times each year) and causes problems for access to loading docks and building entrances. This is the downstream end of a watershed that includes city roads and private drainage. Water has historically discharged to an infiltration swale. However, this swale has not been maintained enough to keep pace with new development within the watershed. This project will refurbish and improve the swale to provide adequate infiltration capacity and also treatment of the stormwater before it infiltrates into the ground.
<b>Description of M&amp;O Cost:</b>	Vegetation maintenance and sediment removal once a year at an estimated cost of \$2,000/yr. to \$4,000/yr beginning in 2014.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost						\$330,000	\$330,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP						\$330,000	\$330,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

**Project Name:** 355S - NE 51<sup>st</sup> Bioretention Swale

**Project Cost:** \$140,000 (Total project cost \$335,000)

**Project Location:** NE 51<sup>st</sup> Street and WLSP

**Project Description:** Expand the existing bioswale into a bioretention swale that provides water quality treatment and discharge from the NE 51<sup>st</sup> direct discharge system.

**Project Schedule:** 2012

**Project Justification:** The existing bioswale discharges to wetlands and does not function properly. It was intended to provide water quality treatment for the NE 51<sup>st</sup> direct discharge system. This project expands the system to function as intended and will meet current water quality standards.

**Description of M&O Cost:** Weed control once per year and refurbish swale once every ten years, both beginning in 2014.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost						\$140,000	\$140,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP						\$140,000	\$140,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

## STORMWATER CIP PROJECT DESCRIPTION

### NEW PROJECT DESCRIPTION

<b>Project Name:</b>	248S - Spiritbrook Park Drainage
<b>Project Cost:</b>	\$110,000 (Total project cost \$462,000)
<b>Project Location:</b>	6500 151 <sup>st</sup> Ave NE
<b>Project Description:</b>	The permanent project solution will be to remove and replace the existing pipe. The pipe will need to be supported in some innovative way to prevent future settlement.
<b>Project Schedule:</b>	2012
<b>Project Justification:</b>	In the Summer of 2000, a new storm pipe was constructed to solve flooding in the Spiritbrook neighborhood. The project included new storm pipe through Spiritbrook Park, in an area characterized by approximately 20 feet of very soft to soft, highly compressible peat. Design of the new storm pipe included pin piles for catch basins and the use of hogfuel for backfill with the goal of making the new pipe neutrally buoyant and not subject to settlement. In 2004, it was observed that despite the innovative design, the pipe had settled substantially through the park. Catch basins did not settle. A paved path has dropped almost one foot, and a ditch is now present above the pipe where it has settled. The pipe was inspected by camera and found to be in good condition. However, the pipe is sagging between the catch basins, due to the settlement, and will likely separate from the structures with time.
<b>Description of M&amp;O Cost:</b>	None. Part of yearly system inspection and cleaning program.

	2007	2008	2009	2010	2011	2012	Total 2007-2012
Total Project Cost						\$110,000	\$110,000
<b><u>Total Project Revenues:</u></b>							
Stormwater CIP						\$110,000	\$110,000
<b><u>Ongoing M&amp;O Costs:</u></b>							
<i>Staffing:</i>							
Number of FTEs	0.00						0.00
Salary/Benefit Costs	\$0						\$0
Operating Costs	0						0
<b>Total Ongoing M&amp;O</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>